



**Greenwood School District 50  
Technology Plan  
7/1/2016 - 6/30/2019**

This Technology Plan has been reviewed and submitted on behalf of Greenwood School District 50.

A handwritten signature in black ink, reading "Darrell Johnson", written over a horizontal line.

**Dr. Darrell Johnson  
Superintendent**

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**Prepared by:  
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**3/17/2016**

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## **Executive Summary**

Greenwood School District 50 has experienced a great deal of exciting change since the last publication of the district's technology plan in 2013. Since that time, the district has completed a district-wide technology initiative which has impacted every student and teacher throughout our district. Recognizing the need for increased access to technology, the district began a plan to put devices in the hands of students at a one-to-one level.

The first phase of the plan addressed the need of network infrastructure. As of this writing, each school has been outfitted with a robust wireless network (one access point per classroom) and the backhaul infrastructure has been upgraded with newer switching equipment. The district's Internet bandwidth was also upgraded to 900Mbps to accommodate the increased consumption of Internet resources.

The second phase of the plan addressed the need of devices. Originally, the district made the decision to provide sets of iPads in cart format throughout the district. This was done based on student population with each school receiving at least 4 carts. Beginning with the 2015/2016 school year, every child in the middle/high grade level (6th - 12th grade) was provided a Lenovo Chromebook for he/she to use and take home each day. This freed up the iPads that were at the middle/high level to be dispersed to the elementary level.

## Background Information

Greenwood School District 50 is the largest of three public school districts in Greenwood County, South Carolina. The district operates 15 school sites, one alternative school site, one administrative facility, and several other sites where support and operations staff are housed or based.

The following table provides a brief overview of the demographic information for Greenwood School District 50 as of March 2015 (dropout and graduation rates are current as of the most recently issued 2015 district report card).

Number of schools in the district	16
Number of students enrolled in district	9,129
Percentage of students eligible for free/reduced lunch	75%
Dropout Rate	1.5%
Graduation Rate	82.1%

Greenwood School District 50 completes a compliance form for the state CIO in order to qualify for e-Rate services provided by the state.

Technology Plan Team Members:

Zach Lloyd - Director of Computing Services

Kitty Tripp - Director of Instructional Technology

Mission Statement: The mission of Greenwood School District 50 is to educate all students to become responsible and productive citizens.

## Current State of Technology – Assessment and Needs

Greenwood School District 50 has identified five major areas of need with regard to technology and technology-based resources. Those areas have specific detailed needs as well as broad general needs.

### INFRASTRUCTURE

The technology infrastructure includes the hardware and operating systems required for the district's networks and the devices attached to those networks. The infrastructure includes workstations, IP telephones, cellular telephones, peripheral devices for data collection, network interface cards, cabling, servers, switches, routers, wireless access points, firewalls, and other devices required physically to create local area networks and wide area networks. The infrastructure also includes the operating systems required to run the hardware. The district currently maintains the following technology-based networks (some of which use wireless technologies):

1. **Data network**, over which end users access student information, testing results, diagnostic results, teaching resources, learning resources, research and reference information, staff and personnel information, accounting and payroll information, state reporting data, and other data needs. Currently, our district has full wireless coverage in each of our locations, but we have identified a need for increased density of our access points in outdoor/common areas to handle the increased number of wireless devices connecting to our network in those locations.
2. **Communications network**, which includes the district's IP telephone system, cellular telephones, public address systems, email systems, video and audio distribution systems (including the digital media resources), Internet access to student records by parents, the district's website, school television networks, presentation devices (including electronic white boards, projectors and printers), fax resources, and other communication needs.
3. **Instructional networks**, which include the Internet, instructional and assessment labs, licensed online content (such as PowerSchool, BrainPop, Renaissance Place, Safari Montage, Compass Learning, Dreambox, Learn360, and others), media centers, and other instructional needs.
4. **Security networks**, which include alarm systems, door key management, digital and analog camera/video systems, hand-held computers, web filtering, anti-virus/anti-worm resources, anti-spam resources, firewalls and flow controllers, and other security needs.
5. **Operations networks**, which include payroll and accounting, lunchroom services, health and Medicaid services, and other management and operations needs.

Specific needs related to the technology infrastructure include the following:

1. Schedule and funding for **equipment replacement and upgrades**, including workstations, network and wireless infrastructure, and student devices.

2. **Integration of network support**, combining maintenance and support for the five networks listed above into one department, in addition to “cross training” on the various networks between technology department members.

## TECHNICAL SUPPORT

Greenwood School District 50 has approximately 1250 employees and 9,129 students, almost all of which are users of the district’s technology resources.

End users – students, teachers, and staff – also require technical support in the use of the available and emerging technology resources. Without that support, the technology resources will be unused or underused.

Specific needs related to technical support include the following:

1. **Integration of network support**, combining maintenance and support for the five networks listed above into one department with **cross training between department members**.
2. **Continue to provide high-quality, timely response** to technology inquiries and issues fielded from staff members and students.

## STAFF DEVELOPMENT

Staff development and training are needed in all areas of technical support and in the application of the technology in teaching, learning, and operations. Funding for staff development is built into grants, awards, and allocations from state and federal sources; those funds are adequate for providing the needed staff development activities. Instructional technology professional development is provided through the Instructional Technology team in conjunction with content area leaders within the schools.

The District has a Director of Instructional Technology as well as 4 instructional technology coaches who are responsible for providing professional development and resources to teachers and other instructional staff to assist in integrating technology into teaching and learning at the classroom level. Training is also provided to administrators and administrative support staff in technology and applications essential to operations and data acquisition and analysis.

Each teacher has received their own Chromebook and iPad for professional use in the classroom as well as in all training sessions. Also, the District has also setup a 30-station computer lab devoted solely to staff development so that training can be done without interfering with regular student instruction in other labs.

Specific needs related to technical staff development include the following:

1. Technical training for **operating systems, applications, and patches** for both types of software.
2. Technical training for **switch, router, and wireless configurations**.
3. Technical training for **tablet/handheld devices and the repairing of said devices**.

4. Technical training for **server-based applications** such as anti-virus programs, backup utilities, network utilities (DNS, DHCP, etc.), cache servers, email programs, SQL databases, ZENworks, and others.
5. Technical training for **workstation trouble-shooting** and peripheral devices.
6. **iPad and Google Application training** for teachers and instructional leaders.
7. Strategies training in the use of **web-based and other technology-based resources** for teaching and learning.
8. Strategies training in **office applications** to enhance teaching and learning.

Applications training for teachers, instructional leaders, and administrators in the use of **emerging technologies** (electronic whiteboards, tablets, e-books, etc.).

## INTEGRATION INTO INSTRUCTION

The biggest need, with regard to educational technology, is the integration of the technology into and across all curriculum, teaching, and learning. While staff development is an essential part of meeting this need, there is also the need for opportunities to plan for that integration in creative and motivating ways.

The District has procured a Director of Instructional Technology as well as four instructional technology coaches whose responsibility is to deliver training, prepare materials, and assist teachers, instructional leaders, and administrators in the integration of technology resources into teaching and learning.

The District has provided a data warehouse (a product called Enrich) of student academic information to assist teachers, instructional leaders, and administrators in making day-to-day instructional decisions for each student based on academic performance standards.

Specific needs related to the integration of technology into instruction include the following:

1. Refreshing of inventory of Chromebooks to support the middle and high school 1:1 initiative.
2. Refreshing of inventory of iPads 2:1 to support the elementary initiative.
3. Interactive panels to replace the Promethean and SMART boards.
4. Additional classroom computers and other devices for student use in research, reference, writing, and other guided activities related to the learning processes and improvement of academic performance. With the prevalence of handheld devices/tablets, it would be prudent to include those in this needs assessment.
5. Rigorous technology competencies for teachers, instructional leaders, and administrators (as opposed to *minimum* competencies) that include knowledge of computers, electronic white boards, application skills in content-related areas, application skills in research and reference areas, the creation of technology-enhanced learning activities for students, the use of technology for communication with parents and

students, and other competencies that lead the integration of technology into instruction. Competencies for teachers, instructional leaders, and administrators should include accessing and using the proposed data warehouse in diagnosing and planning for student needs.

6. Assistive technologies should be integrated into the teaching and learning activities for students with special needs.
7. Parent access technologies that can be used by teachers, instructional leaders, and administrators to share information, in a secure web and/or telephone environment, to help parents become more actively involved in their child's learning. The successful implementation of the PowerSchool Parent Portal was a large step in the right direction.

## **SAFE SCHOOLS**

A safe environment is as essential to learning as is a sound curriculum and effective teaching strategies. Technology is a natural tool to help the district provide the safest possible environment for its students, teachers, and staff. Technology can assist with safety issues that have, in the past, required that teachers and administrators use valuable time away from instruction.

Specific needs related to school safety include the following:

1. Door security systems that restrict unauthorized entry while permitting students and staff easy entry and exit in emergencies.
2. Digital video cameras and recording devices in all "common" areas – cafeterias, media centers, gyms, etc.
3. Digital video cameras and recording devices in all areas where athletic events and competitions are held.
4. Portable digital video equipment for use in areas where persistent problems arise.
5. Network, data, and workstation security to protect confidential data.
6. Wireless IP Phones for school and district administrators for communication in emergency situations where cellular reception isn't adequate.

## **Technology Inventory**

The Greenwood 50 technology inventory is maintained in an MS Access database file at the District Office. Greenwood 50 utilizes a 900 Mbps Metro-E Internet connection shared throughout the entire district. Greenwood 50 will examine the need for increasing bandwidth in the future as usages increases. The district incorporates into its Internet resources several security and safety features, including content filtering, firewall, packet shaping and others. Each of our locations are connected via a redundant 1Gbps fiber ring. This fiber ring is leased from the Greenwood Commissioners of Public Works (CPW) and has been a great asset to the growth of our technology strategies. The exception to this fiber rule is a computer lab Greenwood 50 maintains at Connie Maxwell Children's Home which is connected via a 12 Mbps consumer-grade Northland Communications cable connection. The district maintains cell phones for support and administrative personnel, providing Apple iPhones to administration. The district has licensed video resources (Safari Montage) for instructional use in all schools.



These resources are server-based and available from any computer on the district's network. Other video resources include Learn360.

The district has 45 SUSE Linux virtual servers, 12 VMware ESXi servers, and approximately 30 Windows virtual servers. Our fiber ring is lit with Cisco Catalyst 4506s at each location, and we utilize similar Cisco Catalyst networking equipment at each location's MDF/IDF closets.

The district has also provided a Windows laptop, Chromebook, and iPad to each teacher, instructional specialist, and administrator for several years to aid in instruction and/or administrative duty.

The elementary schools utilize SMART Boards, while the middle and high level utilize Promethean Boards.

### **Technology Support Strategies**

The district utilizes an online "helpdesk" system, which allows end users to log in to an intranet webpage and place technology support requests. Currently, the Office of Computing Services (OCS) has 7 district-based computer technicians. The district-based technicians are assigned a handful of schools and field support requests for those locations. In addition, we have designated a staff member at each location to serve as "on-site technical support" (OSTS). Generally, the OSTS person is a teacher or media/instructional specialist who serves as first level technical support with minor technology issues. If the OSTS person cannot resolve an issue, they will forward the request to a member of the technology department. We also have a "school technology leader" (STL) at each location. Again, this person is usually a teacher or media specialist and fields support requests regarding technology related to classroom instruction (SMART/Promethean Board issues, educational software, etc).

### **Departmental Functions**

The Director of OCS evaluates the technology needs of the district, writes and submits reports to the state department, manages the budget, serves as liaison to other departments, has a working knowledge of curriculum, information literacy, and technology standards, and knows the district's instructional goals. Additionally, this person also attends state, consortium, and district meetings/conferences to share vital information back with other members of OCS and the district.

The Secretary of OCS manages all bookkeeping, ordering/logistics, and budget items for OCS. This person also manages the majority of the district phone/voicemail systems.

The Network Systems Specialist maintains the district network. This person ensures the functioning of the district's email system, all server/backup health issues, and essentially serves as systems administrator. Oftentimes, the Director of OCS and Network Systems Specialist will work in conjunction with one another on most systems administration-related projects.

The Data Systems Specialist manages all aspects of the district student information system (SIS); in our case, PowerSchool. This person is responsible for ensuring data integrity/entry

and training school-based users of the district's SIS, as well as generating reports as needed by the other staff members or the State.

The Data Support Specialist serves as the "lead" computer technician in addition to providing primary support to Mealsplus (our cafeteria software) and TES (accounting software used by schools). This person also serves as primary backup to the Data Systems Specialist and the Network Systems Specialist and manages the district's technology inventory.

Computer Technicians maintain all physical components related to end-user workstations; including, but not limited to: hard drives, CD drives, motherboards, power supplies, monitors, printers, memory, LCD projectors, etc. They also assist in troubleshooting software-related issues as well.

The Director of Instructional Technology Integration guides the district in the curriculum implementation of technology and meets with stakeholders to evaluate current programs, assess needs, and prepare for future implementations. The Director also

- Serves with members of the District's Professional Development and Information Technology Teams to provide recommendations, support, and implementation of all technology initiatives
- Analyzes technology program information documenting the effectiveness of the program, interpret this information and provide constructive input in evaluation of the program effectiveness.
- Maintains a variety of files, documents, and/or records for the purpose of documenting activities concurrent with the job.
- Stays current with trends in education and technology to make recommendations for the direction of district technology. Represent the district at area and state technology organization meetings.
- Attends training classes and regularly read technical publications and periodicals in order to stay abreast of technological developments.
- Oversees the training of District's staff in the use of instructional technology. Coordinate instruction and documentation for the effective use of technology. Coordinate instruction to encourage integration of technology into the curriculum.
- Establishes an environment encouraging creative and independent use of instructional technology. district.
- Supervises all personnel within the instructional technology department and coordinate activities of outside consultants and trainers.

Instructional Technology Coaches in our district plan and facilitate professional development aligned with the chosen state curriculum standards and the International Education Technology Standards. They also:

- Assist in the management of implementing the various phases of the District's 50G initiative.
- Model effective teaching methods and best practices in a digital environment

- Develop instructional technology solutions and related training materials for the purpose of providing users with tools needed to utilize emerging instructional technology for enhancing student learning.
- Maintain a variety of files, documents, and/or records for the purpose of documenting activities concurrent with the job.
- Collaborate with teachers and school leadership to evaluate and integrate technology resources addressing curricular needs and learning goals.
- Introduce principals/teachers to new methods, materials, and instructional strategies that through research, have proven to increase student engagement and achievement.
- Assist district/schools in long-term technology planning and execution of year round district wide technology training.
- Communicates with school and district personnel, parents, and community to share information about district/school technology program(s).
- Follow a plan for professional development and actively seek opportunities to grow professionally in the most current technology trends.

### **Disaster Recovery Plan**

The district is currently in the process of creating and updating a disaster recovery plan and is available upon request.

## **The Technology Plan**

### **Overall Goals**

- **Learners and their Environment**
  - Technology will be a significant tool for educators and students to enhance and advance student performance on academic standards in all content areas
- **Professional Capacity**
  - All educators will use technology in significant ways to promote the improvement of student performance on academic standards in all content areas. Technology competencies will be assessed regularly for all administrators, teachers, and support staff.
- **Instructional Capacity**
  - Appropriate technologies will be available in all teaching and learning settings to enhance learning opportunities related to academic standards in all content areas.
- **Community Connections**
  - Technology will be a tool for parents to become involved in their child's learning. Technology will be a tool for communication with parents and the broader community. Both uses of technology will enhance and advance student performance on academic standards in all content areas.
- **Support Capacity**
  - As technology becomes an integral tool in teaching and learning, sufficient support resources will be available to maintain access to and use of that technology. Sufficient support will mean that resources will be available to enhance and advance student performance on academic standards in all content areas.

### **Goals for Instructional Technology:**

1. Continued training on teaching strategies supporting the effective use of iPads, Google Chromebooks across the curriculum.
2. Continued training on applications or web based programs supporting curriculum standards.
3. Training on various models of improving growth if integrating Instructional Technology across the curriculum (SAMR, TIMs and TPACK)
4. Training on the International Society for Technology in Education standards for both teachers and students
5. Training in understanding and practicing blended learning

6. Training in understanding and practicing flipped classroom
  7. Training in understanding and practicing virtual/online learning
- Objectives for each goal: Teachers will be provided with opportunities to learn about and practice effective use of all district provided devices, online software, models such as SAMR, TIM, and TPACK, ISTE standards for teachers and students, blended learning, flipped classroom and virtual/online learning. These training opportunities will provide learning opportunities allowing teachers to grow in how to integrate technology in their classrooms and engaging students in learning across the curriculum.
  - Action to accomplish objective:
    - Training sessions will be provided throughout the school year after school, during PLC's, in faculty meetings, on Early Release Day, and in summer sessions to engage with current trends of teaching strategies to support effective use of digital tools in the classroom.
    - 1:1 support through the District Instructional Technology Team will provide individualized assistance to help teachers reach their learning goals.
    - School technology cohorts made up of teachers from each school will assist in the sharing of instructional technology integration within their individual school.

## **Technology Vision**

### **District Mission Statement**

The mission of Greenwood School District 50 is to educate all students to become responsible and productive citizens. In a society where information has become the foundation for success, the wise use of **technology is essential in access to, analysis of, and application of that information.**

### **District Vision Statement**

To empower today's students for tomorrow's opportunities.

### **Statements of Belief:**

- Children are our greatest resource.
- Children learn best when basic human needs are satisfied.
- Education is the shared responsibility of students, families, schools, and the entire community working together.
- Parents and caring adults are essential in ensuring that our children achieve educational success.
- Everyone is entitled to respect, encouragement, a safe and nurturing environment, and appropriate education facilities.
- All students deserve a quality educational experience where differences are recognized, respected, and addressed.

- All students learn best with quality instruction, appropriate support services, and high expectations.
- Dedicated, highly qualified, and highly effective teachers are essential for educational success.
- All employees of our district are valuable assets in educating all children.
- Learning is a lifelong process that improves quality of life.

## Technology Vision Statement

The following items describe the vision for technology in classrooms, offices, media centers, and other work areas within our schools:

1. Students and teachers **have access to the best technology and are proficient in using technology** to increase knowledge, create strong and healthy communities, and promote lifelong learning.
2. All learners – students, teachers, parents, administrators, and others – will **share, explore, assess, and apply information** through many forms of interactive technology.
3. Technology will provide **teaching and learning resources that go beyond the traditional resources** that are limited in access and application.
4. Teachers will use the best skills and strategies for instructional delivery, **integrating technology seamlessly and transparently in the teaching process while providing significant opportunities for students** to integrate technology into the learning process.
5. The district will work with its community and through business partnerships to **provide all learners with equal and equitable access to technology**.
6. **Parents will have real-time access to information** about their students' performance, attendance, participation, and other factors that allow the parent to be an active partner in each student's learning.
7. **All learners will develop skills and strategies for success** in a rapidly changing information-based society.

## Action Plan:

### Technology Dimension I: Learner and Their Environment

<b>Access for Learners (Infrastructure)</b>	
<b>Objective 1</b>	Integration of network support, combining maintenance and support for the five networks (data, communications, instructional, security, and operations). Organize all planning, design, implementation, operation, and maintenance of all IP-based networks under the Office of Computing Services
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Integrate communications networks (phones, public address, paging, video, etc) into network maintenance and support in OCS</li> <li>• Integrate security networks (cameras, bells, locks, etc) into network maintenance and support in OCS/Maintenance Department duties</li> </ul>

	· Obtain and train staff to manage all components of the networks at all sites
<b>Evaluation</b>	Positions and job descriptions reflect responsibility for all IP-based network functions and features
<b>Other Info</b>	None

<b><i>Access for Learners (Infrastructure)</i></b>	
<b>Objective 2</b>	Schedule and funding for network/server equipment replacement, including workstations. Develop and fund equipment replacement cycles of five to seven years for network/server equipment and workstations.
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Request budget resources to replace 5-10% of technology each budget year, budget allowing</li> <li>· Determine the oldest technology at the end of each school year and plan for its replacement by the start of the next school year</li> </ul>
<b>Evaluation</b>	5-10% of equipment is replaced each school year, budget allowing
<b>Other Info</b>	None

<b><i>Access for Learners (Infrastructure)</i></b>	
<b>Objective 3</b>	Bolster wireless access to common/outdoor areas in the district.
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Install additional access points and wireless infrastructure in common areas such as cafeterias, outdoor meeting points, athletic fields, and parking lots</li> </ul>
<b>Evaluation</b>	Wireless LAN coverage that is sufficient to maintain instruction in said areas
<b>Other Info</b>	While outdoor/common areas are not generally used for instruction, the increased connectivity would benefit students who are working before/after school who frequent these areas.

<b><i>Access for Learners (Infrastructure)</i></b>	
<b>Objective 4</b>	Refresh wireless access points to reflect latest technological advances. Upgrade/replace existing wireless access points to “wireless AC” (or later) technologies
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Install and configure new access points throughout the district</li> </ul>
<b>Evaluation</b>	Access points are upgraded to reflect the latest in wireless technology
<b>Other Info</b>	Currently, the district has a mixture of wireless N and AC end user devices but most of our access points are wireless N. Upgrading all of the district’s access

	points to support the AC protocol would enable faster data transfer rates and increased coverage.
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<b><i>Access for Learners (Infrastructure)</i></b>	
<b>Objective 5</b>	Upgrade core switching equipment at each location
<b>Actions</b>	· Install and configure upgraded switches at each school location.
<b>Evaluation</b>	Core WAN/LAN network upgraded
<b>Other Info</b>	Currently, the district is running a mixture of 100Mbps and 1Gbps switches. We intend on replacing the older 100Mbps switches with 1Gbps switches in addition to upgrading the core router at each location. This would enable the fiber WAN ring throughout the district to be lit at 10Gbps rather than the current 1Gbps.

<b><i>Access for Learners (Infrastructure)</i></b>	
<b>Objective 6</b>	Ensure district Internet/WAN bandwidth is sufficient for the district's needs
<b>Actions</b>	· Upgrade Internet/WAN bandwidth as usage dictates
<b>Evaluation</b>	The district's Internet/WAN bandwidth is sufficient for the district's needs
<b>Other Info</b>	Currently, the district Internet bandwidth is 900Mbps. Upgrading beyond this point will require hardware changes. As usage increases, we will evaluate options for increasing bandwidth beyond 1Gbps.

<b><i>Access for Learners (Devices)</i></b>	
<b>Objective 7</b>	Student devices will need to be refreshed/replaced on an ongoing basis
<b>Actions</b>	· Investigate appropriate replacement student devices (Chromebooks, iPads, etc.) and refresh on an annual basis
<b>Evaluation</b>	Student devices are replaced on a scheduled/as needed basis.
<b>Other Info</b>	The initial rollout of Chromebooks were provided with an intended lifespan of 3-4 years. As technologies change, the district will investigate the most appropriate replacement devices when the time comes to refresh the Chromebooks.



<b><i>Safety for Learners (Safe Schools)</i></b>	
<b>Objective 1</b>	Door security systems that restrict unauthorized entry while permitting students and staff easy entry and exit during emergencies. Secure entry areas at all schools so that access is restricted without proper clearance
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Complete installation of IP-based security devices that can be controlled through the network and through admissions technology (magnetic strip cards, RFID, or other technologies)</li> </ul>
<b>Evaluation</b>	Doors are secured against unauthorized access but allow access for staff and students with proper identification
<b>Other Info</b>	The District 50 Maintenance department handles the majority of the door security devices (with occasional OCS assistance).

<b><i>Safety for Learners (Safe Schools)</i></b>	
<b>Objective 2</b>	Update and audit IP-based digital video surveillance (cameras and recording devices) in strategic areas of school operations. Ensure safety in classrooms, on school buses, in restrooms, at open entrances, on playgrounds and other outdoor areas, in cafeterias and other commons areas, at athletic events, and in other areas where students and staff work
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Add additional cameras in front of restrooms and other places where students may partake in unauthorized behavior</li> <li>· Provide portable video surveillance equipment for use in areas where persistent problems arise</li> </ul>
<b>Evaluation</b>	Cameras, servers, switches, and other equipment are installed and operational
<b>Other Info</b>	The District 50 Maintenance department handles the majority of the camera security systems (with occasional OCS assistance).

<b><i>Safety for Learners (Safe Schools)</i></b>	
<b>Objective 3</b>	Implement wireless phone usage in schools where cellular reception is poor. Utilizing the wireless LAN access provided at most locations to issue wireless "IP Phones" to support and administrative staff, particularly in locations where cellular reception is poor
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Install and configure wireless IP phones for locations that have insufficient cellular coverage inside.</li> </ul>
<b>Evaluation</b>	Phones with the required functionality are installed and in use at said locations

<b>Other Info</b>	Many of our locations have poor cellular reception inside, thus rendering our district-provided cellular phones useless while inside. With wireless IP phones, this need would be negated.
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## Technology Dimension II: Staff Training and Professional Development

### **Overall Goal:**

Offer continual engaging professional development for district personnel that uses current technologies to promote effective instructional technology practices.

<b>Objective 1</b>	Provide live and online professional development that reaches the needs of teachers, administrators and district personnel
<b>Actions</b>	<ul style="list-style-type: none"> <li>• For each live technology training session, provide these learning resources online</li> <li>• Create online training modules for the two purchased Chromebook applications allowing teachers to train independently on these two platforms</li> <li>• Gather input/feedback from educators across the district at each training session for what type of technology training they would prefer</li> <li>• Develop weekly/monthly varied sized groups of across the curriculum technology training</li> <li>• Provide weekly job-embedded coaching and mentoring opportunities</li> </ul>

<b>Objective 2</b>	Implementing benchmarks of proficiency demonstrating growth and development in basic technology skills as well as implementation of instructional technology across the curriculum.
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Provide basic proficiency standards to create a foundation of needed skills to begin progressing in instructional technology</li> <li>• Utilizing the ISTE standards for teachers and students and various instructional models (SAMR, TIM, and TPACK) create intermediate and advanced strategies for how instructional technology should look when effectively integrated</li> <li>• Using the “train the trainer” approach, teachers will be receive training feedback on how to move from being a beginner to intermediate to advanced instructional technology user</li> <li>• Digital video resources will be provided to share the various levels on instructional technology integration</li> </ul>

<b>Objective 3</b>	Utilize School Technology Cohorts to build foundational technology capabilities at each school in sharing knowledge and resources available locally and globally
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Use digital media boards for cohort members to share project ideas across the curriculum</li> <li>• Encourage the use of social media to share digital learning projects opportunities</li> <li>• Use video conferencing to brainstorm ideas to increase learning opportunities for implementing instructional technology</li> <li>• Using the “train the trainer” approach, teachers will be provided learning opportunities to then share across their grade level or content areas.</li> </ul>

<b>Objective 4</b>	Utilize online professional communities to expand learning opportunities beyond the district, across the state and throughout the globe
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Develop culture of awareness and understanding of the capabilities of social media and how it can be utilized in education</li> <li>• Provide various learning opportunities about the main social media platforms and district guidelines for safely using these outlets</li> <li>• Invite out of district speakers to share their instructional technology strategies through video conferencing</li> </ul>

<b>Objective 5</b>	Provide training opportunities that go above and beyond the benchmark norms to promote current technology trends
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Create a voluntary instructional technology team that desires to know and practice current instructional technology trends</li> <li>• Utilize this instructional technology team for training opportunities across the district</li> <li>• Connect with educators through social media and video conferencing to learn about best practices and current trends in action across national educational institutions</li> </ul>

#### Evaluation Criteria:

- Keep records of all professional development offered by the District Instructional Technology Team
- After each training session a post survey/feedback form will be given to develop ideas and resources for improving the district’s professional development efforts
- Collect teacher and principal data about benchmark skills and how to best meet these training needs
- Follow-up on effects of social media outlets

### Challenges and Improvement Opportunities:

- Currently the district is transitioning from a “sage on the stage” model of professional development to the “guide on the side” interactive delivery of professional development. This is a cultural shift that will take time for buy-in to the delivery model.
- Providing online training opportunities are costly and limited in accessibility. Creating online modules take much time and manpower to develop. We will be working to find how other districts are dealing with these challenges
- While the district culture is currently learning to realize the benefits of online professional learning communities, the biggest challenge is to get teachers to become responsible for their own learning and take ownership of developing their abilities with technology
- Because there so many state and federal mandates teachers currently deal with, the idea of moving “beyond the norm” expectations in technology is difficult for teachers to embrace. As our culture begins to change due to the digital integration, this has the potential to change

### Technology Dimension III: Student Learning and Classroom Technology

#### Overall Goal:

Efficiently and effectively engage students in learning process across the curriculum through the use of digital devices supporting academic progress in all classrooms.

<b>Objective 1</b>	When appropriate, intertwine the learning process with digital tools to engage students in the learning process
<b>Actions</b>	<ul style="list-style-type: none"><li>• Increase access to digital devices until 1:1 opportunities are equitable</li><li>• Provide digital multi-media and video production platforms for use across the curriculum</li><li>• Use social media and gaming approaches to enrich the learning curriculum</li></ul>

<b>Objective 2</b>	On an ongoing basis infuse student learning with real world digital citizenship lessons
<b>Actions</b>	<ul style="list-style-type: none"><li>• Provide a district wide digital citizenship age appropriate curriculum that teaches how to be a culture of digitally responsible citizens.</li><li>• Determine online learning times throughout the school year that focus students on a monthly digital citizenship theme</li><li>• Implement the ISTE Student Standards and resources from Common Sense Media to enhance digital citizenship instruction</li></ul>

<b>Objective 3</b>	Provide opportunities for students to communicate, collaborate, create and critically think (the 4 C's) through the use of a wide variety of digital tools.
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Explore various learning environments such as blended learning and flipped classroom variations to effectively utilize the 4 C's</li> <li>• Using digital tools, create vertical district grade level connections to provide learning opportunities across the curriculum</li> <li>• Implement an information management system facilitating the flow of electronic information between students, teachers and district personnel</li> </ul>

<b>Objective 4</b>	Develop community resources enabling student learning to be focused on "real world learning opportunities" with professional experts
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Meet with local business leaders to determine their future work force needs, especially in the area of technology usage, that our education system needs to be cultivating</li> <li>• Secure funding resources through local businesses and universities that support the district's technology initiatives</li> <li>• Promote collaborative opportunities between local higher education institution and district educators through the use of digital media</li> <li>• Collaborate on a state, national and international level with other educators, classes and professional experts on real world learning initiatives</li> </ul>

#### **Evaluation Criteria:**

- Student attendance rates will be tracked to determine student engagement in the learning process
- Students and district personnel will be surveyed, interviewed and/or observed to collect their opinions on the growth and development of our instructional technology program.
- Correlation will be evaluated between state test scores to determine types of effectiveness found in curriculum learning
- Student Learning goals will be achieved or surpassed

#### **Challenges and Improvement Opportunities:**

- Our district has moved from a school based iPad cart model to a Chromebook 1:1 initiative in the middle and high school and an iPad 1:3 initiative in the elementary schools. We would like to pursue equitable access for all students even though this is a financial challenge
- While our district has developed a digital citizenship age appropriate curriculum, developing patterns of independent consistent conversations about these topics provides its challenges we are looking to address as we grow in our digital program
- Digital implementation of the 4 C's provides ongoing challenges as educators have not developed for the vision of these capabilities locally, therefore they do not understand the state, national and international learning opportunities they have at their disposal.

Through training and education, we hope to build a solid foundation for an learning environment that values digital implementation of the 4 C's.

#### Technology Dimension IV: Community Connections

<b><i>Resources for Parents and the Community (Integration into Instruction)</i></b>	
<b>Objective 1</b>	More parent involvement in their child's learning. Provide parent access technologies that can be used by teachers, instructional leaders, and administrators to share information and resources, in a secure web and/or telephone environment, to help parents become more actively involved in their child's learning
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Provide web-based applications through which parents can access student performance information, including grades and attendance</li> <li>· Provide web-based applications through which parents (and students) can access assignments and resources related to learning activities</li> <li>· Provide web-based applications through which parents and educators can communicate effectively about student performance and learning needs</li> </ul>
<b>Evaluation</b>	The district's website will provide parent access to student information, the PowerSchool "Parent Portal", assignments, and communication tools
<b>Other Info</b>	With the migration to PowerSchool 8, many of the aforementioned strategies are included features of PowerSchool.

<b><i>Safety for Parents and the Community (Safe Schools)</i></b>	
<b>Objective 2</b>	IP-based digital video surveillance (cameras and recording devices) in strategic areas that serve the community. Ensure safety at athletic events, and in other areas where community events are staged
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Install video surveillance equipment in areas where athletic events and competitions are held</li> <li>· Install video surveillance equipment in areas where parents and the community attend special events</li> </ul>
<b>Evaluation</b>	Cameras, servers, switches, and other equipment are installed and operational
<b>Other Info</b>	None

#### Technology Dimension V: Support Capacity

<b><i>Ability Development for Learners (Staff Development)</i></b>	
<b>Objective 1</b>	Technical training for operating systems, applications, and patches. Provide training for technicians and OSTS staff to support network operating systems, server applications, and patch management
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Identify specific staff for specific responsibilities</li> <li>· Identify available training courses and activities</li> <li>· Send technicians to appropriate training sessions</li> </ul>
<b>Evaluation</b>	Technicians and OSTS staff will be trained to support various parts of the district and school networks
<b>Other Info</b>	More than one technician will be trained in each critical support area so that the district has backup support for each part of the network(s)

<b><i>Ability Development for Learners (Staff Development)</i></b>	
<b>Objective 2</b>	Technical training for switch, router, and wireless configurations
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Identify specific staff for specific responsibilities</li> <li>· Identify available training courses and activities</li> <li>· Send technicians to appropriate training sessions</li> </ul>
<b>Evaluation</b>	Technicians will be trained to support specific switches and routers on the district's networks
<b>Other Info</b>	More than one technician will be trained in each critical support device so that the district has backup support for each device

<b><i>Ability Development for Learners (Staff Development)</i></b>	
<b>Objective 3</b>	Technical training for server-based applications such as PowerSchool, Lightspeed, backup utilities, network utilities (DNS, DHCP, etc.), CallManager, cache servers, email, SQL databases, ZENworks, and others
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Identify specific staff for specific responsibilities</li> <li>· Identify available training courses and activities</li> <li>· Send technicians to appropriate training sessions</li> </ul>
<b>Evaluation</b>	Technicians will be trained to support specific server-based applications
<b>Other Info</b>	More than one technician will be trained in each critical support device so that the district has backup support for each device

<b><i>Ability Development for Learners (Staff Development)</i></b>	
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<b>Objective 4</b>	Technical training for workstation troubleshooting and peripheral/handheld devices. Provide training for technicians and OSTS staff for trouble-shooting workstations, peripheral devices, IP phones, and other devices on the network(s)
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Identify specific staff for specific responsibilities</li> <li>· Identify available training courses and activities</li> <li>· Send technicians to appropriate training sessions</li> </ul>
<b>Evaluation</b>	Technicians will be trained to support all end-user devices
<b>Other Info</b>	More than one technician will be trained to support each type of end-user device so that the district has backup support for each device

<b><i>Safety for Technical Support (Safe Schools)</i></b>	
<b>Objective 1</b>	Protect confidential data and information
<b>Actions</b>	<ul style="list-style-type: none"> <li>· Identify specific sources and storage locations for sensitive data and information</li> <li>· Ensure student data access points such as PowerSchool and Enrich are secure and using the latest version of HTTPS</li> <li>· Provide network and workstation security systems to protect the data</li> <li>· Train all staff in the use of technology in ways to ensure protection of data</li> <li>· Monitor the flow of data and access to those data</li> </ul>
<b>Evaluation</b>	Security systems are in place and monitoring is implemented
<b>Other Info</b>	None



## Timeline

### I. [Learner and Their Environment](#)

- July 2016 - Ongoing: Integration of network support, combining maintenance and support for the five networks
- July 2016 - Ongoing: Schedule and funding for network/server equipment replacement, including workstations
- July 2016 - July 2017: Bolster wireless access to common/outdoor areas in the district
- July 2016 - Ongoing: Refresh wireless access points to reflect latest technological advances
- July 2016 - July 2018: Upgrade core switching equipment at each location
- July 2016 - Ongoing: Ensure district Internet/WAN bandwidth is sufficient for the district's needs
- July 2016 - Ongoing: Student devices will need to be refreshed/replaced on an ongoing basis
- July 2016 - July 2017: Secure entry areas at all schools so that access is restricted without proper clearance
- July 2016 - Ongoing: Update and audit IP-based digital video surveillance (cameras and recording devices) in strategic areas of school operations
- July 2016 - July 2017: Implement wireless phone usage in schools where cellular reception is poor

### II. [Staff Training and Professional Development](#)

- July 2016 - Ongoing: Provide live and online professional development that reaches the needs of teachers, administrators and district personnel
- July 2016 - July 2017: Create benchmarks of proficiency demonstrating growth and development in basic technology skills as well as implementation of instructional technology across the curriculum
- July 2016 - July 2019: Implement benchmarks of proficiency demonstrating growth and development in basic technology skills as well as implementation of instructional technology across the curriculum
- July 2016 - Ongoing: Create School Technology Cohorts to build foundational technology capabilities at each school in sharing knowledge and resources available locally and globally
- July 2017 - Ongoing: Build on School Technology Cohorts to build foundational technology capabilities at each school in sharing knowledge and resources available locally and globally
- July 2016 - Ongoing: Utilize online professional communities to expand learning opportunities beyond the district, across the state and throughout the globe
- July 2016 - July 2017: Create an instructional technology team wanting training opportunities that go above and beyond the benchmark norms to promote current technology trends
- July 2017 - Ongoing: Provide training opportunities throughout the district that go above and beyond the benchmark norms to promote current technology trends

### III. [Student Learning and Classroom Technology](#)

- July 2016 - Ongoing: When appropriate, intertwine the learning process with digital tools to engage students in the learning process
- July 2016 - Ongoing: On an ongoing basis infuse student learning with real world digital citizenship lessons
- July 2016 - Ongoing: Provide opportunities for students to communicate, collaborate, create and critically think (the 4 C's) through the use of a wide variety of digital tools.
- July 2016 - Ongoing: Develop community resources enabling student learning to be focused on “real world learning opportunities” with professional experts

#### IV. [Community Connections](#)

- July 2016 - Ongoing: More parent involvement in their child's learning
- July 2016 - Ongoing: IP-based digital video surveillance (cameras and recording devices) in strategic areas that serve the community

#### V. [Support Capacity](#)

- July 2016 - Ongoing: Support staff technical training for operating systems, applications, and patches
- July 2016 - Ongoing: Support staff technical training for switch, router, and wireless configurations
- July 2016 - Ongoing: Support staff technical training for server-based applications
- July 2016 - Ongoing: Technical training for workstation troubleshooting and peripheral/handheld devices
- July 2016 - Ongoing: Protect confidential data and information

## Budget Summary

Office of Computing Services Budget (funding source - local and state funds):

Account	Amount
Administration/Supplies	\$15,500
Travel	\$12,500
Purchased Services	\$5,500
Infrastructure	\$160,000
Infrastructure/Computers	\$208,707

## Evaluation

The technology plan evaluation process will be performed on an annual basis by the Director of Computing Services and the Director of Instructional Technology.

## Attachment 1: Technology Inventory & IT Skills Inventory

### Inventory

Location	Classroom Computers	Lab Computers	Laptops	Cart iPads
Brewer Middle	171	212	52	60
District Office	15	7	252	0
Early Childhood Center	34	28	36	60
Emerald High	151	204	68	120
Genesis Education Center	98	93	33	0
Greenwood High	317	259	116	30
Hodges Elementary	92	33	26	300
Lakeview Elementary	111	64	43	240
Mathews Elementary	161	85	59	240
Maintenance Shop	0	0	5	0
Merrywood Elementary	150	63	73	240
Northside Middle	232	187	64	30
Pinecrest Elementary	146	92	79	240
GFR Technology Center	59	135	39	40
Rice Elementary	108	64	47	270
Springfield Elementary	107	64	46	270
Woodfields Elementary	190	60	55	270
Westview Middle	177	279	80	60

The district also has 5,000 student Chromebook devices for students 6th-12th grade spread out across Brewer, Northside, Westview, Greenwood High, Emerald, Genesis, and the G. Frank Russell Technology Center.

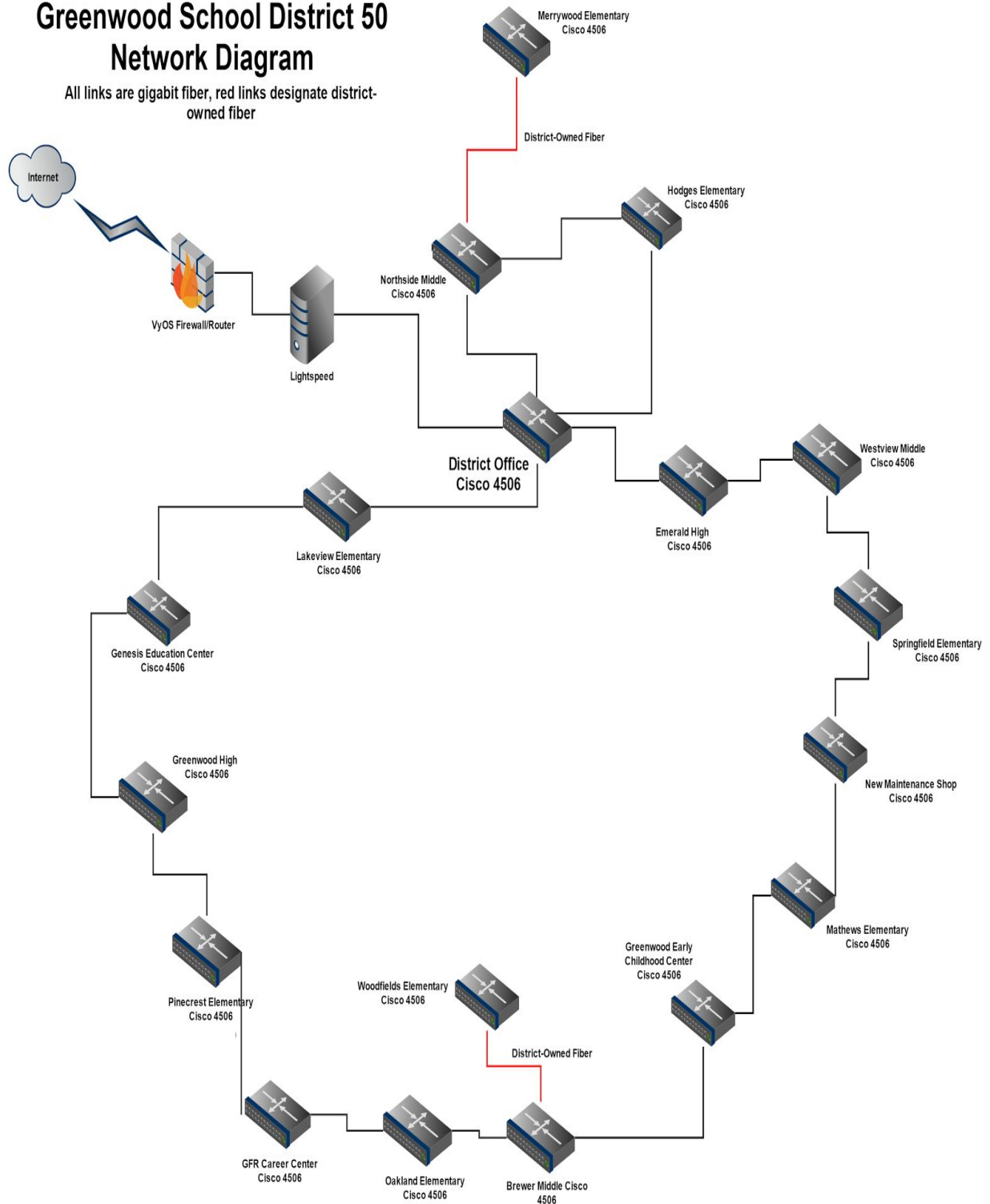
### Technology Staff Skills

Ability	Skill needed	Skill Available In-House?	Contracted additional tech support?
<b>Technical Staff Skills</b>			
<b>PC Skills</b>			
Install & Configure hardware		X	
Load & update software		X	
Troubleshoot & repair problems		X	
<b>LAN Skills</b>			
Design Network		X	Advanced engineering contracted additional support
Install & configure hardware		X	Advanced engineering contracted additional support
Load & update software		X	
Troubleshoot & repair problems		X	Advanced engineering contracted additional support
<b>WAN Skills</b>			
Install & configure hardware		X	Advanced engineering contracted additional support
Load & update software		X	
Troubleshoot & repair problems		X	Advanced engineering contracted additional support

## Attachment 2: Network Diagram

### Greenwood School District 50 Network Diagram

All links are gigabit fiber, red links designate district-owned fiber



## **Attachment 3: Internet Use Policy**

### **Policy GBEAA Employee Internet Access and Electronic Messaging Issued 6/11**

Purpose: To establish the basic structure for Internet access and electronic messaging by employees.

Technology is a vital part of education and the curriculum of Greenwood School District 50. In an effort to promote learning and expand educational resources for students, the district has made arrangements to provide Internet access to students and staff. The district's goal in providing this service is to promote educational excellence by facilitating resource sharing, communication and innovation. Access to the Internet will allow students and staff the opportunity to communicate with others on a global level and access educational materials worldwide.

Employees will have access to the Internet for the purposes of instruction, resources and staff development. Access to the Internet is a privilege, not a right. With this privilege, there also is a responsibility to use the Internet solely for educational purposes. Access to inappropriate areas of the Internet on district equipment is strictly forbidden. Access to inappropriate areas will be judged on the basis of what a reasonable and prudent person would access if students were present.

#### Electronic mail (email) usage

The district's email system is made available to authorized users for educational and district operational purposes. All authorized users will receive instruction on proper use of the district email system.

The district prohibits the use of its email system for unprofessional and/or inappropriate purposes to include, but not be limited to, the following:

- creating, transmitting, forwarding or receiving emails of a political nature or containing any language or depictions that could reasonably be perceived by others as being offensive, threatening, obscene, sexual, racist or discriminatory
- any use that violates local, state and/or federal laws or regulations
- setting up or operating a commercial business

All electronic messages created, transmitted or received via the district's email system, including those created, transmitted or received for personal use, are the property of the district. Email messages may be subject to discovery proceedings in legal actions. As such, the district reserves the right to archive, monitor and/or review all use of its email system and users should not have any expectation of privacy in any electronic message created, transmitted or received on the district's email system. Although the district's email system has security mechanisms in place, there is no way to ensure total security of the district's system.

As part of the implementation of the administration's guidelines, students and staff must be instructed on the appropriate use of the Internet and electronic messaging. Inappropriate access by employees using school or district technology will not be tolerated. Employees who are found

not in compliance with this policy will be subject to disciplinary action that could result in reprimand, suspension or termination.

District employees should also note that, while their personal lives are generally not a concern of the district, Internet conduct, including conduct outside the school or district worksite, can serve as a basis for discipline (up to and including termination) if that conduct results in a school disruption or otherwise negatively affects the school district, the employee's credibility or the employee's standing within the school environment.

Adopted 7/18/96; Revised 12/16/02, 3/19/07, 6/13/11



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**Approved by the SC State School District or Library:**

\_\_\_\_\_

**Date:** \_\_\_\_\_

**This certification expires:** \_\_\_\_\_